

Budget Change Proposal - Cover Sheet

DF-46 (REV 08/15)

Fiscal Year 16-17	Business Unit 3980	Department Environmental Health Hazard Assessment	Priority No. 5
Budget Request Name 3980-006-BCP-BR-2016-GB		Program 3730	Subprogram

Budget Request Description
Greenhouse Gas Limits Study

Budget Request Summary

The Office of Environmental Health Hazard Assessment (OEHHA) requests 3.0 permanent full-time positions and \$200,000 per year in annual contracts for a total of \$645,000 annually to be funded by direct appropriation from the Cost of Implementation Account, Air Pollution Control Fund. These resources will be used to analyze the benefits and impacts in disadvantaged communities of greenhouse gas (GHG) emission limits. More specifically, Governor Brown has issued a directive to the California Environmental Protection Agency for OEHHA to prepare a report analyzing the benefits and impacts in disadvantaged communities of the GHG limits adopted by ARB pursuant to Division 25.5 (commencing with Section 38500) of the Health and Safety Code. The initial report is due December 1, 2016, and must be updated at least every three years. This will be a new activity for OEHHA.

Requires Legislation <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Code Section(s) to be Added/Amended/Repealed	
Does this BCP contain information technology (IT) components? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes, departmental Chief Information Officer must sign.</i>	Department CIO	Date

For IT requests, specify the date a Special Project Report (SPR) or Feasibility Study Report (FSR) was approved by the Department of Technology, or previously by the Department of Finance.

☐ FSR ☐ SPR Project No. Date:

If proposal affects another department, does other department concur with proposal? ☐ Yes ☐ No
Attach comments of affected department, signed and dated by the department director or designee.

Prepared By John Faust <i>[Signature]</i>	Date 11/24/2015 <i>1-5-16</i>	Reviewed By Allan Hirsch <i>[Signature]</i>	Date 1-6-16
Department Director Lauren Zeise, Acting Director <i>[Signature]</i>	Date 1/6/16	Agency Secretary Matthew Rodriguez <i>[Signature]</i>	Date 1/6/16

Department of Finance Use Only

Additional Review: ☐ Capital Outlay ☐ ITCU ☐ FSCU ☐ OSAE ☐ CALSTARS ☐ Dept. of Technology

BCP Type: ☐ Policy ☐ Workload Budget per Government Code 13308.05

PPBA

Original signed by:
Ellen Moratti

Date submitted to the Legislature

1/7/16

Analysis of Problem

A. Budget Request Summary

The Office of Environmental Health Hazard Assessment (OEHHA) requests 3.0 permanent full-time positions and \$200,000 per year in contracts for an annual total of \$645,000 funded by direct appropriation from the Cost of Implementation Account, Air Pollution Control Fund beginning in 2016-17. These resources will allow OEHHA to track and analyze the benefits and impacts of greenhouse gas limits in disadvantaged communities in fulfillment of Governor Brown's new Directive. The Directive says that, at a minimum, the report shall track and evaluate:

- (a) GHG emissions, criteria air pollutants, toxic air contaminants, short-lived climate pollutants, and other pollutant emission levels in disadvantaged communities; and
- (b) Public health and other environmental health exposure indicators related to air pollutants in disadvantaged communities.

The Directive states that the disadvantaged communities are those identified by the Secretary for Environmental Protection for purposes of investing Greenhouse Gas Reduction Fund monies in those communities, pursuant to Health and Safety Code Section 39711. CalEPA currently uses the results of OEHHA's California Communities Environmental Health Screening Tool (CalEnviroScreen) to identify these disadvantaged communities.

The Directive also requires OEHHA's report to be made public and to be provided to the Legislature. The initial report is due by December 1, 2016, and must be updated at least every three years.

B. Background/History

Health and Safety Code sections 38500 et seq. (also known as AB 32, the California Warming Solutions Act of 2006) require the Air Resources Board (ARB) to adopt a statewide greenhouse gas emissions limit equivalent to the 1990 level by 2020. In addition, the law requires ARB to prepare and approve, and update at least once every five years, a scoping plan for achieving the maximum technologically feasible and cost-efficient reductions in greenhouse gas emissions. AB 32 also requires ARB to consider the potential impacts from market-based compliance mechanisms, including localized impacts in communities that are already adversely impacted by air pollution, prior to inclusion of such mechanisms in regulation. Since that time, the State has implemented a number of GHG reduction measures including a cap-and-trade program and has collected greenhouse gas emissions data under a Mandatory Greenhouse Gas Reporting Program.

Since the passage of AB 32, there has been speculation that the cap-and-trade program, as well as other efforts to reduce greenhouse gas emissions, could concentrate emissions of greenhouse gases, toxic pollutants, and criteria pollutants such as nitrogen oxides and particulates, in certain communities, particularly disadvantaged communities already burdened by pollution. For example, the cap-and-trade program might provide an incentive for small or mid-size industrial facilities in outlying areas to close or retool, enabling them to sell their GHG allowances to large industrial facilities that would use the allowances to expand their operations (with increases in emissions of both GHGs and traditional air pollutants). While carbon dioxide itself, the primary GHG, is not expected to pose a local health risk from facilities that emit it, there is concern that changes in emissions of more hazardous pollutants may also result of changes in facility operations because of the cap-and-trade program. To the extent that this may be happening, this raises broad environmental justice concerns that California's efforts to reduce global warming are adversely impacting air pollution and public health in many of the state's disadvantaged communities.

Health and Safety Code Section 39711 (enacted by SB 535, Chapter 830, Statutes of 2012), addresses this concern to some extent by requiring that 25 percent of Greenhouse Gas Reduction Fund monies be spent on projects that benefit disadvantaged communities. But it is not known how these benefits compare to any impacts resulting from AB 32 programs.

The analysis that OEHHA will prepare, per the Governor's Directive, will evaluate whether changes in emissions of GHGs and traditional air pollutants under the implementation of AB 32, especially the cap-and-trade program, are impacting public and environmental health exposure indicators in disadvantaged communities. This work will provide information that the ARB can use as part of its cap-

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and-trade adaptive management process of the cap-and-trade regulation and the implementation of other activities under AB 32.

This will be a new activity for OEHHA. OEHHA's analysis will focus on the disadvantaged communities identified by the CalEnviroScreen tool, and may be able to use in its analysis some of the information from CalEnviroScreen's air-pollution and public health indicators. However, CalEnviroScreen does not assess or quantify impacts or benefits to communities from changes in pollution levels, which is the primary focus of the Governor's Directive. OEHHA's experience in developing CalEnviroScreen and its expertise in chemical risk assessment make it a logical choice to conduct the analysis, but the focus of the analysis will be outside the scope of CalEnviroScreen and other current OEHHA activities. For these reasons, there is no program resource history for this activity.

C. State Level Considerations

The Directive expresses the Administration's policy to identify benefits and impacts that the state's efforts to reduce global warming may be having on disadvantaged communities. This is consistent with the Administration's support of SB 535. The Directive is also consistent with OEHHA's development and ongoing refinement of CalEnviroScreen for use by CalEPA in identifying disadvantaged communities as required by SB 535, and to help guide CalEPA programs overall in addressing environmental-justice concerns. The Directive builds on these efforts but, as explained in the previous section, calls for an entirely new OEHHA analysis that is outside the scope of these other activities.

D. Justification

This proposal addresses a change in OEHHA workload by providing resources to conduct the tracking and analysis of benefits and impacts of ARB's GHG limits, as required by the Governor's recent Directive. The Governor's Directive requires a systematic scientific evaluation of California's GHG reduction efforts with respect to its benefits and impacts in communities that are already burdened by pollution. ARB's AB 32 regulatory programs include market-based mechanisms for the largest GHG emission sources (cap-and-trade regulation), which was expanded in 2015 to include transportation and natural gas fuel suppliers, as well other early or on-going transportation sector initiatives (Low Carbon Fuel Standard, Vehicle Efficiency Measures, Ship Electrification at Ports, Goods Movement Efficiency Measures, Heavy-Duty Vehicle Emission Reduction, and Medium- and Heavy-Duty Vehicle Hybridization Voucher Incentive Project).

The most suitable approach for this analysis is to begin systematically acquiring and analyzing data concerning changes to GHG emissions in disadvantaged communities and their relationship to other locally hazardous pollutants that may be related to GHG reduction programs.

This activity will require OEHHA to develop analytical approaches to the evaluation of benefit and impacts, acquire relevant environmental and ARB program data, conduct the analysis, prepare reports describing the results of the analysis, and integrate public and stakeholder engagement processes.

This proposal is appropriately funded directly from the Cost of Implementation Account, Air Pollution Control Fund. Since the tracking and analysis of data directly relates to the benefits and impacts of AB 32 programs, this source of funding is the most natural to use for this effort. ARB has approved an adaptive management plan for its GHG cap-and-trade regulation. Adaptive management is an ongoing process used to assess the implementation of these AB 32 regulations, allowing new actions and policies that improve the effectiveness of the cap-and-trade regulation to be put in place as issues arise. As part of the adaptive management process, ARB monitors GHG emissions over multiple years to establish trends across facilities, communities, and sectors. More detailed analysis may result if adverse impacts are identified. The tracking and analysis of public health and environmental health benefits and impacts from the cap-and-trade program can provide extremely pertinent information to ARB as part of its adaptive management process, particularly if analysis shows that disadvantaged communities are disproportionately affected by the pollutants as a result of program activities.

This activity will not require any change to existing law. The tracking and analysis will require consultation and cooperation of ARB with respect to providing relevant GHG reduction program data in a timely manner to OEHHA as part of its analysis.

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The program objectives identified in the Directive require activities from different scientific disciplines that will complement each other to produce the types of analysis required. Program activities will require considerable ongoing internal communication and coordination. The workload is substantial and will require 3.0 positions in different scientific classifications to perform the required analysis. The analysis described in the directive requires

- Identifying the relevant regulatory programs adopted by ARB pursuant to AB 32.
- Acquiring and evaluating emissions data for multiple years for GHGs, toxic air contaminants, short-live climate pollutants, and other toxics across disadvantaged communities.
- Acquiring or developing public health and other environmental health exposure indicators in disadvantaged communities for multiple years that are relevant to the AB 32 programs' activities.
- Analyzing likely changes to emissions of all types associated with regulatory program activities, and characterizing where they occur across California.
- Estimating the degree to which changes in emissions are associated with changes in community exposures, especially to toxic pollutants or co-pollutants, as a measure of potential impact or benefit.
- Producing results that characterize whether there are potential disparities in benefits or impacts in disadvantaged communities relative to other parts of California.

OEHHA has identified the following classifications and disciplines as critical to the success of the project:

- Research Scientist III (Physical/Engineering Sciences) to gather and evaluate emissions data of greenhouse gases, toxic air contaminants, and short-lived climate pollutants, and characterize its relationship to AB 32 program activities. This scientist also will provide input on the likely fate and transport of toxic pollutants into disadvantaged communities.
- Research Scientist IV (Epidemiology/Biostatistics) to develop and guide analytic methods to relate changes in emissions to benefits and impacts in disadvantaged communities. This scientist will also develop analyses of uncertainties associated with relating changing emissions to specific regulatory programs.
- Staff Toxicologist (Specialist) to characterize changes in adverse health outcomes that may result from changes in emissions in or near disadvantaged communities. This scientist will use existing regulatory standards for chemicals and his/her expertise in exposure and dose-response assessment to evaluate potential adverse health consequences.

These resources will be needed on a permanent basis, in light of the Directive's requirement that the report be updated at least every three years. The scope of AB 32 activities covered by the Directive is substantial. While the Directive calls for the initial report to be completed in less than one year, the tasks cited above will need to be carried out on an ongoing basis, as OEHHA will need to continuously track changes in existing databases, identify and evaluate new data, connect this data to the state's various AB 32 programs, and refine public health and other environmental health exposure indicators. Also, the communities to be included in each report will likely change somewhat from report to report, as updated versions of CalEnviroScreen will need to be completed periodically to allow CalEPA to update its list of disadvantaged communities at least every three years as required by Health and Safety Code section 39711.

If this BCP is not approved, OEHHA will not have the resources needed to conduct this analysis. A redirection of resources from other OEHHA activities to conduct the analysis will cause unacceptable delays in mandated activities. For example, redirection of resources from CalEnviroScreen activities would delay the next planned identification of disadvantaged communities, potentially delaying the disbursement of Greenhouse Gas Reduction Fund monies to projects that benefit those communities. Redirection of resources from OEHHA's air toxics program would delay the development and updating of assessments of air pollutants that are needed for the Air Toxics Hot Spots program, which reduces

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emissions and health risks from the kinds of large industrial facilities that are a key focus of the Governor's Directive.

E. Outcomes and Accountability

Program staff will establish goals and objectives for implementing the development of an analysis of (a) GHG emissions, criteria air pollutants, toxic air contaminants, short-lived climate pollutants, and other pollutant emission levels in disadvantaged communities; and (b) public health and other environmental health exposure indicators related to air pollutants in disadvantaged communities in California. These goals and objectives will be reviewed on a regular basis and evaluated to support effective program development and implementation.

OEHHA's scientific activities are subject to an internal review and approval procedure, which is also tracked. OEHHA has experience in evaluating and managing scientific information, which will be core functions in establishing and developing these analyses.

The allocated resources will come under the existing controls that are in place for OEHHA. Staff time and work products will be accounted for as part of existing practices. Staff resources and expenditures are tracked by the OEHHA Fiscal Office. Section and Branch level supervisory staff is accountable for work produced by their groups, which is tracked by executive staff and discussed in management meetings.

This work will also require collaboration with other state agencies, particularly with ARB. Regular cross-department meetings will be held to consult in the development of the analyses. OEHHA has significant experience with cross-department work, including with ARB. Public comment via workshops and review of materials made available on the web are expected to be part of the development of the analysis and reporting of results.

Projected Outcomes

Research Scientist IV (Epidemiology/Biostatistics)

Workload Measure	CY	BY	BY+1	BY+2	BY+3	BY+4
Hold and participate in consultation meetings with ARB, as necessary, to develop detailed work plan on proposed analysis related to assessing benefits and impacts to disadvantaged communities from GHG reduction programs.	NA	8 meetings	8 meetings	8 meetings	8 meetings	8 meetings
Acquire an inventory of relevant AB 32 regulatory programs that may benefit or impact disadvantaged communities.	NA	1 inventory	1 inventory	1 inventory	1 inventory	1 inventory

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Design and/or update analytic approaches to evaluate program impacts with respect to public health; identify criteria for establishing relationships between program activities and potential changes in environmental conditions in communities.		6 approaches	6 approaches	6 approaches	6 approaches	6 approaches
Characterize and/or update uncertainties in the relationship between program activities and outcomes in communities.		1 report	1 report	1 report	1 report	1 report
Prepare written materials that summarize results and findings with respect to the various health and risk assessment analyses.	NA	1 draft and final report	NA	NA	1 draft and final report	NA
Make presentations, as necessary, in public forums and to stakeholder groups, as part of the process of establishing benefits and impacts in disadvantaged communities.	NA	6 presentations	6 presentations	6 presentations	6 presentations	6 presentations

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Research Scientist III (Physical/Engineering Sciences)

Workload Measure	CY	BY	BY+1	BY+2	BY+3	BY+4
Hold and participate in consultation meetings with ARB, as necessary; brief staff on work plan on proposed analysis related to assessing benefits and impacts to disadvantaged communities from GHG reduction programs.	NA	8 meetings	8 meetings	8 meetings	8 meetings	8 meetings
Identify, review, and evaluate potential sources of data on the location of facilities or sources associated with program activities that result in altering GHG emissions.	NA	12 data sources	12 data sources	12 data sources	12 data sources	12 data sources
Acquire the most current available emissions data for greenhouse gases, criteria air pollutants, toxic air contaminants, and short-lived climate pollutants.		12 data sets	12 data sets	12 data sets	12 data sets	12 data sets
Identify and characterize evidence that changes in emissions are directly or indirectly a result of regulatory GHG reduction activities.	NA	12 analyses	12 analyses	12 analyses	12 analyses	12 analyses
Analyze the likely spatial distribution of emissions and subsequent potential for exposures in disadvantaged communities where changes in emissions are occurring. Evaluate potential to take into account factors that may affect the distribution of emissions, such as meteorological conditions. Characterize for possible disparities in disadvantaged communities.	NA	12 analyses	12 analyses	12 analyses	12 analyses	12 analyses
Characterize uncertainties in the analysis of the distribution of emissions.		1 report	1 report	1 report	1 report	1 report
Prepare written materials that summarize results and findings with respect to the analyses of the distribution of emissions and possible pathways of exposure.	NA	1 draft and final report	NA	NA	1 draft and final report	NA

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Make presentations, as necessary, in public forums and to stakeholder groups, as part of the process of establishing benefits and impacts in disadvantaged communities.	NA	6 presentations	6 presentations	6 presentations	6 presentations	6 presentations
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Staff Toxicologist (Specialist)

Workload Measure	CY	BY	BY+1	BY+2	BY+3	BY+4
Hold and participate in consultation meetings with ARB, as necessary; brief staff on work plan on proposed analysis related to assessing benefits and impacts to disadvantaged communities from GHG reduction programs.	NA	8 meetings	8 meetings	8 meetings	8 meetings	8 meetings
Develop, execute, and manage consultation contract(s), as necessary, to support processes related to analysis and dissemination of results.	NA	2 contracts	2 contracts	2 contracts	2 contracts	2 contracts
Identify, review, and evaluate potential data on emissions associated with AB 32 program activities that result in altering GHG emissions. Acquire datasets on emissions of greenhouse gases, criteria air pollutants, toxic air contaminants, and short-lived climate pollutants. Evaluates data sets with respect to completeness and quality.	NA	12 data sources	12 data sources	12 data sources	12 data sources	12 data sources
Prepare and/or update quantitative and semi-quantitative assessments that identify the degree of potential changes in hazards and health risks associated with changing emissions in disadvantaged communities.	NA	1 report	1 report	1 report	1 report	1 report

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Prepare and/or update materials that characterize uncertainties associated with the likelihood that adverse health outcomes may result from changes in exposure to toxic pollutants in disadvantaged communities.	NA	1 report	1 report	1 report	1 report	1 report
Prepare draft written materials that summarize results and findings with respect to the various health and risk assessment analyses. Produce report describing the analyses for evaluating impacts and risks in disadvantaged communities.	NA	1 draft and final report	NA	NA	1 draft and final report	NA
Make presentations, as necessary, in public forums and to stakeholder groups, as part of the process of conducting and reporting on these analyses.	NA	6 presentations	6 presentations	6 presentations	6 presentations	6 presentations

F. Analysis of All Feasible Alternatives

Alternative 1: Approve this BCP and provide OEHHA with 3.0 permanent full-time positions and \$200,000 per year in annual contracts for a total of \$645,000 annually to implement this proposal and fulfill the Governor's directive. OEHHA will track and develop analyses of the benefits and impacts of the GHG limits on disadvantaged communities.

Pros:

- OEHHA will implement the Governor's directive to analyze the benefits and impacts of AB 32 programs on disadvantaged communities. This will help ensure that California's pioneering efforts to reduce global warming do not have the unintended consequence of increasing air pollution and affecting public health in disadvantaged communities.

Cons:

- This will require an ongoing appropriation from the Cost of Implementation Account, Air Pollution Control Fund.

Alternative 2: Redirect resources from elsewhere in OEHHA to staff activities related to evaluating benefits and impacts of GHG limits on disadvantaged communities.

Pros:

- OEHHA could begin activities to develop analysis of benefits and impacts of GHG limits on disadvantaged communities.

Cons:

- Staff from OEHHA would be redirected from mandated activities, potentially causing programs to fail to comply with these mandates.

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Alternative 3: Deny this BCP.

Pros:

- No on-going appropriation would occur, allowing these funds to be spent on existing programs or GHG reduction activities.

Cons:

- OEHHA will be unable to comply with the Governor's directive. California will continue to have no structured scientific analysis to indicate whether the GHG limits in place in California are disproportionately affecting disadvantaged communities.

G. Implementation Plan

OEHHA will begin the recruitment and hiring process for new staff in early 2016 with offers of employment upon approval of the budget. This will ensure timely staff support for development of the analysis and report.

- H. Supplemental Information** This proposal requests \$200,000 per year for consulting and professional services to supplement staff work related to collecting and analyzing data. This will include consulting with experts at California state universities on topics related to the analysis of impacts and benefits to disadvantaged communities in California, as needed. These may include consultations on spatial analysis and analysis of disparities across populations in disadvantaged communities. OEHHA also requires additional funds related to consultation on planning public meetings, communicating results, and support the development and distribution of materials related to these findings.

I. Recommendation

Alternative 1. Approve this BCP and provide OEHHA with 3.0 positions and \$200,000 per year in annual contracts for a total of \$645,000 annually to implement this proposal.

BCP Fiscal Detail Sheet

BCP Title: Greenhouse Gas Limits Study

DP Name: 3980-006-BCP-DP-2016-GB

Budget Request Summary

	FY16					
	CY	BY	BY+1	BY+2	BY+3	BY+4
Positions - Permanent	0.0	3.0	3.0	3.0	3.0	3.0
Total Positions	0.0	3.0	3.0	3.0	3.0	3.0
Salaries and Wages						
Earnings - Permanent	0	263	263	263	263	263
Total Salaries and Wages	\$0	\$263	\$263	\$263	\$263	\$263
Total Staff Benefits	0	124	124	124	124	124
Total Personal Services	\$0	\$387	\$387	\$387	\$387	\$387
Operating Expenses and Equipment						
5301 - General Expense	0	9	9	9	9	9
5302 - Printing	0	3	3	3	3	3
5304 - Communications	0	3	3	3	3	3
5306 - Postage	0	2	2	2	2	2
5320 - Travel: In-State	0	3	3	3	3	3
5322 - Training	0	3	3	3	3	3
5324 - Facilities Operation	0	29	29	29	29	29
5340 - Consulting and Professional Services -	0	200	200	200	200	200
5346 - Information Technology	0	6	6	6	6	6
Total Operating Expenses and Equipment	\$0	\$258	\$258	\$258	\$258	\$258
Total Budget Request	\$0	\$645	\$645	\$645	\$645	\$645

Fund Summary

Fund Source - State Operations						
3237 - Cost of Implementation Account, Air	0	645	645	645	645	645
Total State Operations Expenditures	\$0	\$645	\$645	\$645	\$645	\$645
Total All Funds	\$0	\$645	\$645	\$645	\$645	\$645

Program Summary

Program Funding						
3730 - Health Risk Assessment	0	645	645	645	645	645
Total All Programs	\$0	\$645	\$645	\$645	\$645	\$645